

ABSTRACT OF THE DISCLOSURE

A balloon catheter stent deployment system is disclosed wherein a balloon catheter is provided and a tubular stent is crimped onto a distal portion of the balloon with a distal end of the stent in close proximity to a point where the distal end of the balloon is attached to the inner tube of the catheter. A proximal section of the balloon extending from a proximal end of the stent to a point where the proximal end of the balloon is attached to the outer shaft of the catheter remains uncovered by the stent and, has a larger uninflated outer diameter than the crimped stent. Thus, in some embodiments, the proximal section of the balloon provides a protective cone for the proximal end of the stent to help resist frictional forces from disengaging the stent from the balloon in the event the balloon catheter and stent are withdrawn back into a guide catheter during a procedure. A stepped enclosure is also disclosed which is used in a disclosed fabrication method to allow the proximal section of the balloon to be inflated after the stent is crimped onto the distal section of the balloon.